

Non-chemical techniques for inducing analgesia prior to velvetting: II The effect of the NaturO™ technique on subsequent antler production

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Abstract

Compression analgesia is an effective technique for providing pain relief during velvet removal from yearly red deer stags (spikers). This study aimed to measure the effects, if any, of the use of compression analgesia on spikers on velvet production in the following year. Twenty-two spikers were velvetted in the 1997/98 season with pain relief provided by either local anaesthetic (controls) or compression analgesia (NaturO™ rings). The following season velvet production parameters from these animals were measured. Compression analgesia had no significant effect on pedicle circumferences, casting date, and interval to cutting of velvet grade. The mean weight per antler was 0.57 kg for compression analgesia animals and 0.67 kg for controls and the difference between treatments approached significance ($p = 0.053$). The use of compression analgesia on spikers has little effect on velvet production from these animals as two-year-olds.

Introduction

A technique involving application of a rubber ring (NaturO™) to the base of the pedicle for one hour prior to velvetting for inducing analgesia has been given approval by the Animal Welfare Advisory Committee for use on spikers over a 12 month period covering the 1998/99 velvetting season. The acceptability of the technique is to be reviewed pending an audit.

While the technique has no adverse effects on the welfare of the animals, the implications of the use of compression analgesia on velvet production in subsequent years has not been systematically investigated. The aim of the current study, then, was to compare the velvet production in 2-year-old stags that had previously been velvetted as yearlings using NaturO™ rings with that of 2-year-olds previously velvetted using conventional techniques (local anaesthetic).

Methods

Animals

A total of 22, 2-year-old stags were used in the 1998/99 velvetting season, 10 of which had been velvetted as yearlings using NaturO™ rings (“experimentals”) and the remainder (“controls”) had been velvetted previously using lignocaine hydrochloride (20 ml per antler) applied as a ring block. The mean liveweights at the time of casting were 116.2kg for the controls and 111.8 kg for the experimentals.

Procedure

The animals were observed daily from mid-September and the day of antler casting was recorded. Each deer was velvetted when it was judged that the individual optimal velvet grade had been attained.

For velveting each stag was physically restrained in a chute and pain relief was provided by local anaesthetic (25 - 30 ml of lignocaine hydrochloride) applied as a ring block by an experienced veterinary practitioner. The pedicle circumference was measured immediately prior to administration of the local anaesthetic. In addition, the velvet was weighed and graded by an experienced velvet buyer.

Analyses

The data were analysed by ANOVA. The interval (days) from casting to velvet removal and stag weight were both used as covariates in calculating the significance of differences in velvet weight between treatments (since both these parameters covary with velvet weight).

Results

The mean casting date was similar between treatments (11 October for experimentals and 9 October for controls, $p > 0.05$). The mean interval from casting to velvet removal was 59 days for experimentals and 55 days for controls. This difference was not significant ($p > 0.05$).

The mean pedicle circumference was not different between treatments (12.7cm for experimentals and 13.1cm for controls; $p > 0.05$). The mean weight per antler was 0.57kg for experimentals and 0.67kg for controls. The difference in weight between treatments approached significance ($p = 0.053$). The rate of velvet growth averaged 0.02kg/day over the period from casting to cutting. There was no significant differences between treatments in the circumference of the velvet that was used in grading (12.1cm for experimentals and 12.6 for controls; $p > 0.05$), or in the grade ($p > 0.05$). Most of the velvet was graded C or D for both controls and experimentals.

Discussion

The results showed that there were no deleterious effects of the use of compression analgesia with spikers on pedicle circumference, casting date, interval from casting to harvesting, velvet grade and velvet grading circumference in these animals as 2-year-olds. There was a non-significant trend for velvet weight to be slightly lower in animals previously velveted under compression analgesia. Additional research using greater numbers of animals may be required to determine the full significance of any effect of compression analgesia on velvet weight.

For animals destined for slaughter as spikers, the use of NaturO™ rings provides a simple convenient and foolproof technique for achieving analgesia. In addition, the current research indicates that the technique can be utilised on animals that are to be retained for velveting in subsequent years without unduly affecting commercially relevant velvet production parameters.